

United States Government

Department of Energy

memorandum

DATE: May 13, 2003

REPLY TO
ATTN OF: Office of Environmental Policy and Guidance:Koss:6-7964

SUBJECT: Information - Clean Air Act Final Rules on New Source Review

TO: Distribution

On December 31, 2002, the Environmental Protection Agency (EPA) issued a revised rule (at 67 FR 80185; available at the Office of Environmental Policy and Guidance (EH-41) Web Site at <<http://www.eh.doe.gov/oepa/rules/67/67fr80185.pdf>>) governing the New Source Review (NSR) program, which revised the part of the program dealing with modifications to existing sources of air pollutants. This important final rule makes changes to EPA requirements related to nonattainment NSR regulations, and NSR Prevention of Significant Deterioration (PSD) regulations for sources in areas that are in attainment with the National Ambient Air Quality Standards.

Also, on March 10, 2003, EPA issued a related final rule (68 FR 11316; available at the EH-41 Web Site at <<http://www.eh.doe.gov/oepa/rules/68/68fr11316.pdf>>) that incorporates the PSD provisions in the December 2002 final rule into the Federal implementation plan portion of a State's SIP when the State does not have an EPA-approved PSD SIP in place. Both of these rules were effective on March 3, 2003.

These final rules potentially apply to modifications to existing Department of Energy (DOE) fossil-fuel boilers that meet major source emissions thresholds related to nonattainment or PSD requirements, modifications to other major DOE sources subject to nonattainment or PSD requirements, and nonmajor DOE sources that make a physical or operational change that by itself is major.

Attached is an analysis of these final rules. Questions concerning these rules or requests for assistance concerning their applicability to DOE sources should be directed to Ted Koss (e-mail: <theodore.koss@eh.doe.gov>; telephone: 202-586-7964) of my staff.



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Center for Environmental Management Information

Attachment

Prevention of Significant Deterioration and Nonattainment New Source Review Analysis of Final Rule: 67 FR 80185, December 31, 2002

Background on New Source Review Program

New Source Review (NSR) is a preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Plan Requirements for Nonattainment Areas") of Title I of the CAA. The NSR program has two parts. The Prevention of Significant Deterioration (PSD) program is for geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. The nonattainment program is for areas that do not meet the NAAQS. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade. Nonattainment NSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality. State Implementation Plans (SIPs) must require permits for the construction and operation of new or modified major stationary sources. For nonattainment NSR, a major source is one that has the potential to emit 100 tons per year (tpy) or more of a nonattainment pollutant [CAA, §302(j)]. There is a lower threshold for sources of volatile organic compounds, and possibly for sources of oxides of nitrogen (NO_x), in moderate, serious, severe, and extreme ozone nonattainment areas [CAA, §182(b)-(f)]. There is also a lower threshold in serious carbon monoxide (CO) nonattainment areas (50 tpy) and serious particulate matter (PM₁₀) nonattainment areas (70 tpy). For PSD NSR, a major source is a source that belongs to one of 28 listed source categories and that has a potential to emit 100 tpy or more of a regulated pollutant, or any other source with the potential to emit 250 tpy or more of a regulated pollutant [40 CFR 52.21(b)(1)(i)]. The NSR program is implemented on a pollutant-specific basis. For example, depending on attainment status, an owner/operator in a given area may be potentially subject to PSD permitting for one pollutant and nonattainment NSR permitting for another pollutant.

On December 31, 2002, the Environmental Protection Agency (EPA) issued a final rule¹ (67 FR 80186) relating to changes in the NSR program for modifications to existing sources of air pollutants. The final rule makes changes to EPA requirements at 40 CFR 51.165 (nonattainment NSR requirements for SIPs), 40 CFR 51.166 (PSD NSR requirements for SIPs), and 40 CFR 52.21 (EPA's PSD requirements for States that do not have approved PSD requirements in their SIP). The final rule does not include parallel revisions to 40 CFR 52.24 and 40 CFR 51 Appendix S which govern EPA's implementation of

¹ Available at the Web Site of the Office of Environmental Policy and Guidance (EH-41) at <http://www.eh.doe.gov/oepa/rules/67/67fr80185.pdf>.

nonattainment NSR programs in States that have not obtained EPA approval for the nonattainment program in their SIPs. EPA states in the preamble that it intends to make these conforming changes in the final regulations for an interim implementation strategy for the eight-hour ozone standard (67 FR 80187). The final rule is effective March 3, 2003.

EPA issued a separate final rule² (68 FR 11316) on March 10, 2003, that incorporates the PSD provisions in the December 2002 final rule into the Federal implementation plan portion of a SIP when the State does not have an EPA-approved PSD SIP in place. These changes are made to applicable subsections of 40 CFR Part 52. The March 10, 2003, rule was issued to ensure comprehensive and consistent implementation of the Federal PSD program by State, local, and tribal agencies when EPA has determined that they have the responsibility to implement the Federal PSD program. The March 10 rule applies to the following States in which there are Department of Energy sites: California, Colorado, Florida, Idaho, Illinois, Iowa, Massachusetts, Montana, Nebraska, Nevada, New Jersey, New York, Oklahoma, South Dakota, Tennessee and Washington.

Nine northeastern States have filed a court challenge to the December 2002 final rule in the U.S. Court of Appeals for the District of Columbia Circuit (*New York v. EPA*, D.C. Cir., No. 02-1387, December 31, 2002). The States contend that the changes to the NSR requirements made by the final rule will allow sources to increase air pollution and are contrary to the CAA.

The December 2002 final rule makes various changes to the NSR rules as discussed below.

Determining Whether a Proposed Modification Results in a Significant Emission Increase

Modifications to major sources or modifications to minor sources where the modification itself exceeds the major source threshold are subject to NSR program requirements if the modification results in a significant net increase in emissions of a regulated pollutant. The terms *net emissions increase* and *significant* are defined at 40 CFR 51.165(a)(1) for nonattainment NSR and at 40 CFR 51.166(b) and 40 CFR 52.21(b) for PSD review.

The December 2002 final rule allows an owner/operator to use any consecutive 24-month period during the ten-year period prior to the modification to determine baseline emissions [40 CFR 52.21(b)(48)]. For power plants, the period is five years. The baseline must be adjusted downward if additional emission limitations were imposed after the selected 24-month period or if any emissions during the 24-month period exceeded emission limits. Under the prior NSR rules, the baseline was to be established from emissions over the two years immediately preceding the proposed modification.

² Available at the EH-41 Web Site at <<http://www.eh.doe.gov/oepa/rules/68/68fr11316.pdf>>.

The December 2002 final rule also allows existing sources that are undertaking a modification to compare projected actual emissions after the modification to current actual emissions to determine whether there will be a significant net increase in emissions. Under prior requirements, a source's potential to emit after the modification needed to be compared to current actual emissions. An owner/operator of an existing source can continue to use the prior requirements to avoid monitoring requirements associated with the projected actual emissions test. When estimating projected actual emissions, the owner/operator is to project the maximum annual emission rate in any of the five years following the date the unit resumes regular operation after the modification. Emissions estimates are to include fugitive emissions to the extent quantifiable and emissions associated with startups, shutdowns, and malfunctions [40 CFR 52.21(b)(41)]. Increased emissions that an existing unit could have accommodated during the 24-month baseline period under the owner/operator's pre-modification permit do not need to be included in the estimate of projected actual emissions. An owner/operator that uses the projected actual emissions test must monitor post-modification emissions for five years, and notify the permitting agency of any deviations from projections.

Establishment of Plantwide Applicability Limitations (PALs)

The December 2002 final rule establishes a new PAL option. A PAL is a source-wide, pollutant-specific cap on emissions. An owner/operator obtains a PAL permit for a specific pollutant. The permit term is ten years. The PAL emission limit for the pollutant is the baseline emissions plus an amount equal to the applicable significance level (67 FR 80208). An owner/operator can compute the baseline level using any 24-month period within the ten-year period immediately preceding the application for the PAL. A PAL permit will include monitoring, recordkeeping, and reporting provisions. The PAL emission limit would be reduced if a new Federal control requirement were to be introduced during the ten-year permit term (67 FR 80210). Once an owner/operator obtains a PAL permit, it can make physical and operational changes as needed and desired, provided permit conditions are met. Individual changes within the permit limits would not be considered major modifications triggering NSR.

New Source Review for Clean Units

The December 2002 final rule establishes a new NSR policy for facilities designated as *Clean Units*. A Clean Unit is one that has gone through major source NSR review within the last 10 years and has installed pollution control technology meeting the Best Available Control Technology (BACT) standard of the PSD program or the Lowest Achievable Emissions Rate (LAER) standard of the nonattainment NSR program (67 FR 80222). Facilities that have not been through major NSR may also qualify for the Clean Unit status if the owner/operator can demonstrate to the permitting agency that emissions are comparable to BACT or LAER and that the allowable emissions will not cause or contribute to a

NAAQS or PSD increment violation, or adversely impact an air quality-related value (such as visibility) that has been identified for a Federal Class I area by a Federal land manager. If Clean Unit status is obtained, an owner/operator may make any physical or operational changes to the Clean Unit without triggering major NSR, unless the change causes the need for a revision in the emission limitations or work practice requirements in the permit for the unit adopted in conjunction with BACT, LAER, or Clean Unit determinations, or would alter any physical or operational characteristics that formed the basis for the BACT, LAER, or Clean Unit determination for a particular unit.

Pollution Control Projects

The December 2002 final rule excludes qualified pollution control projects that reduce emissions from major NSR permitting requirements. This exclusion may be sought when control equipment is installed at an existing source which reduces the emissions rate of one air pollutant while causing an increase in emissions of a different, *collateral* pollutant. An example of such a project is installation of a thermal incinerator, which forms NO_x as a collateral pollutant while reducing volatile organic compound emissions. Qualified projects include, but are not limited to, the installation of baghouses, scrubbers, thermal incinerators, and selective catalytic reduction (see 67 FR 80234 for a list of qualifying projects). Pollution control projects that are not listed in the final rule may still qualify if the permitting agency determines on a case-specific basis that a non-listed project is environmentally beneficial when used for a particular application. Before beginning construction on a pollution control project, the owner/operator is to submit a notice to the permitting agency that includes: (1) a description of the project, (2) an analysis of the environmentally beneficial nature of the project, including a projection of emissions increases and decreases, and (3) a demonstration that the project will not have an adverse air quality impact.

Definition Changes

The December 2002 final rule adds a definition for the term *regulated NSR pollutant*. This new definition replaces the term *pollutants regulated under the Act*. The term *regulated NSR pollutant* includes the following pollutants:

- NO_x or any volatile organic compound
- Any pollutant for which NAAQS have been promulgated
- Any pollutant that is subject to any standard promulgated under Section 111 (“Standards of Performance for New Stationary Sources”) of the CAA

- Any Class I or II ozone-depleting substance subject to a standard promulgated under or established by Title VI (“Stratospheric Ozone Protection”) of the CAA.

The definition excludes hazardous air pollutants listed in Section 112 of the CAA (including any pollutants that may be added to the list pursuant to Section 112(b)(2) of the CAA).

However, when any pollutant listed under Section 112 is also a constituent or precursor of a more general pollutant that is regulated under Section 108 (“Air Quality Criteria and Control Techniques”) of the CAA, that listed pollutant may be regulated under NSR but only as part of regulation of the general pollutant (67 FR 80240).

The December 2002 final rule revises the definition of the term *major modification* to clarify that determining whether a major modification has occurred is a two-step process (67 FR 80190). The new definition of *major modification* is "any physical change in or change in the method of operation of a major stationary source that would result in: (1) a significant emissions increase of a regulated NSR pollutant; and (2) a significant net emissions increase of that pollutant from the major stationary source." The final rule also revises the definitions of the terms *actual emissions*, *emissions unit*, *net emissions increase*, and *construction* and adds new definitions for the terms *baseline actual emissions*, *projected actual emissions*, *project*, and *significant emissions increase*.

NSR Applicability Roadmap

The December 2002 final rule includes new CFR sections that outline how a major modification is determined under the various major NSR applicability options and clarifies where an owner/operator can find the provisions (67 FR 80190). For each applicability option, the rule describes how a major modification is determined. The applicability roadmaps are in 40 CFR 51.165(a)(2), 40 CFR 51.166(a)(7), and 40 CFR 52.21(a)(2).